(*h*) ARACHNIDA.

By W. J. Rainbow, Entomologist to the Australian Museum, Sydney.

PLATES LXVII. AND LXVIII.

At the request of Captain S. A. White I have examined a collection of Arachnida made by him during an expedition to Central Australia. Naturally, the collection—small though it be—contains some novelties; and descriptions of, and notes upon, these will appear in the following pages of this paper. Some of the forms collected, of course, call for no special comment. Very little has hitherto been made known by naturalists of the Arachnid fauna of the interior of this continent; but this is not much to be wondered at when we consider the arid nature of the country and the difficulties and hardships of travel.

In 1896 Mr. H. R. Hogg, M.A., worked out the *Araneidae* of the Horn Exploring Expedition in the "Report of the Work of the Horn Scientific Exploring Expedition to Central Australia, Part ii., Zoology"; later, Embrik Strand, in "Zoologischen Jahrbüchern," 1913, contributed an interesting addition to our knowledge of this branch of our endemic fauna—a paper in which he not only recorded some species already described, but gave descriptions of forms new to science; finally, in 1914, my esteemed friend, Dr. R. H. Pulleine, of Adelaide, in the "Transactions of the Royal Society of South Australia," vol. xxxviii., published a brief list of a small collection of *Araneidae* made by Captain S. A. White. Each of the papers referred to above are of value, inasmuch as they extend our knowledge of range and distribution. Some of the species enumerated by these authors are also recorded below, as they form part of the collection submitted to me; but in addition to these some new genera and species are defined. The new material includes some particularly interesting forms, such as *Aganippe whitei*, in the *Aviculariidae; Argyrodes binotata*, in the *Theridiidae;* two species of *Argiopidae*, for which I propose the names of *Dolophones intricata* and *D. thomisoides;* and two *Thomisidae* —*Timarus punctatus* and *Diaea pulleinei.*

Of great interest is the announcement of the occurrence of the family *Prodidomidae* in Australia. The species referred to, while being a true *Prodidomid*, renders the creation of two subfamilies, as well as that of a new genus and species, necessary, and fuller details of this interesting fact will be found a little further on in this paper. Another interesting species,

and one that I propose to call *Lycosa nigropunctata*, was also collected by Captain White. This is one of those *Lycosids*, the females of which make a lid or trap-door to their burrows. Finally, I record a new genus and species of the family *Oxyopidae*, for which I propose the name *Pseudohostus squamosus*, and to the notes upon this I refer the student. In the following pages there are enumerated two scorpions and twenty-nine spiders, and of these latter eleven are recorded as new, whilst one is the description of what I take to be the male of a previously known species—*viz.*, *Echemus griseus*, L. Koch. Two new subfamilies and two new genera are also defined.

Some of the material obtained by Captain White was too immature to be of value, but this is always so in collections of this branch of the fauna, and some were damaged. This latter contingency, as pointed out by Dr. Pulleine in his paper already referred to, could not possibly be avoided, owing to the softness of the animals' bodies, the roughness of the country over which they had to be conveyed, and the manner of their transport.

Suborder SCORPIONIDAE.

Family BUTHIDAE.

ISOMETROIDES (?) VESCUS, Karsh.

Isometrus vescus, Karsh: Schrift. der Ges. nat. Freunde, 1880, p. 56.

Isometroides vescus, Karsh: Keys, in Die Arach. des Aust., Suppl., 1884, p. 17, pl. ii., fig. 3.

Hab.—Everard Range to Wantapella Swamp.

Note.—Karsh's paper is inaccessible to me, but Keserling gives a lengthy description and a figure in his supplement to Ludwig Koch's monumental work. Unfortunately the latter author's specimen (which is in the collection of the University of Berlin, and is vaguely labelled "Australie") was damaged, for the writer says:—"Sturnum und Kämme fehlen leider dem vorliegenden Exemplare." Consequently I must let Captain White's specimen (of which only one example was taken) remain for the present as quoted above. *I. vescus* is the type of the genus.

Family SCORPIONIDAE.

URODACUS WOODWARDI, Poc.

Ann. Mag. Nat. Hist. (6), xii., 1893, p. 322, pl. xiv., figs. 8 and 9; *op. cit.* (7), ii., 1898, p. 63.

Hab.—Musgrave Ranges and Oodnadatta to Todmorden; originally recorded from the Darling Range, Western Australia.

Suborder ARANEIDAE.

Family AVICULARIDAE.

The collection contains only one trap-door spider, and this I have named *Aganippe whitei*, in honour of Captain White, the collector. The genus *Aganippe*, O. P. Cambr., is exclusively Australian, and the form described below makes the seventh species known to naturalists.

AGANIPPE WHITEI, n. sp.

Pl. lxvii., figs. 1 and 2.

♀. Cephalothorax (not including *falces*), 8·5 mm. long, 6 mm. broad; abdomen, 13·4 mm. long, 7·5 mm. broad.

Cephalothorax yellow-brown, smooth, shining. *Pars cephalica* arched, raised, sloping backwards to thoracic fovea; sides darker than summit; a few scattered, short, bristly hairs are distributed over the surface, in addition to which there are also two or three long ones at rear of eyes; running down the middle there is a finely pencilled dark line, upon which are a few short adpressed black hairs, and this line is bifurcated in front; *ocular area* broader than long; immediately in front of *caput*, and between the front eyes, there is a group of long, coarse, black bristles (fig. 1); *clypeus* broad, pallid, indented at middle. *Pars thoracica* arched, broad; *thoracic* fovea deep, procurved; *marginal band* broad, pallid, fringed with short dark hairs. *Eyes* in three series of (reading from the front) 2, 2, 4; the two front eyes and lateral eyes of rear row large and of equal size; anterior median eyes considerably smaller, while the posterior median pair are minute; anterior eyes separated from each other by a space equal to once their individual diameter, and the front median pair from each other by a space equal to about one-half their individual diameter; posterior median eyes widely separated from each other (fig. 1). *Legs* concolorous with cephalothorax short, tapering; third and fourth pairs strongest; *tarsi* of first and second pairs scopulated; each leg densely clothed with long coarse hairs, and armed with strong black spines; superior claws long and serrated; inferior claw minute. Relative lengths, 4, 1, 2, 3. *Palpi* long, similar in colour, clothing, and armature to legs; tarsi scopulated. *Falces* rather darker than cephalothorax, porrected, arched, clothed with coarse hairs or bristles, and each furnished with a *rastellum;* outer angle of the furrow of each falx armed with ten strong teeth and the inner angle with eight; intermediately between these two rows there are, at the base, three small teeth (fig. 2); *fang* long, shining, almost black, well curved. *Maxillae* reddish-brown, hairy, apices widely divergent; inner angles fringed

with long yellowish hairs. *Labium* concolorous, arched, hairy, broader than long, submerged. *Sternum* yellow-brown, pyriform, narrowest in front, arched, clothed with long coarse bristles; *sigilla* moderately large, removed from margin, not distinct. *Abdomen* elongate, somewhat obovate, yellow-brown, faintly mottled, pilose, and furnished with a few adpressed bristles on upper surface; a distinctly visible yellowish tapering line or bar runs down the middle, and this median line is broadest in front; towards anterior extremity of this bar there is on each side a large but faintly-defined round spot; near posterior extremity there are four pairs of short, faintly distinguishable lateral transverse bars, and these are directed downwards, each pair describing a chevron broken at the centre; at anterior extremities the abdomen is somewhat darker in colour; inferior surface pilose, dull yellow, clouded with somewhat darker patches. *Spinnerets* short, yellowish, hairy; superior mammillae stout, first joint as long as second and third combined; third joint minute, dome-shaped; inferior mammillae very short and separated from each other by a space equal to about once their individual length.

Hab.—Between Musgrave and Everard Ranges.

Family DICTYNIDAE.

AMAUROBIUS ROBUSTUS, L. Koch.

Die Arach. des Austr., i., 1872, p. 331, pl. xxxvi., figs. 5 and 5*a*.

Hab.—Wantapella Swamp, South Australia. Ranges from Northern Queensland to Western Australia.

Note.—*A. rubustus* is evidently a variable species, which one would naturally expect from its being so common and so widely distributed. During the last twenty-five years I have examined very many specimens, but cannot recall one which did not differ in abdominal ornamentation from Koch's figure. Captain White's specimen shows (when in alcohol) distinct chevrons.

Family PRODIDOMIDAE.

One of the most interesting specimens collected by Captain White is a species which I take to be representative of the above family. This family is a very small one, and its range, according to Simon,[1] is as follows:—

Prodidomus, Hentz.: "Regio mediterranea calid., Hispania merid., Barbaria, Egyptus et Syria; Africa austr.; Arabia

[1] Simon: Hist. Nat. des Araign., i., 1892 (1893), pp. 337 and 338.

merid.; India orient.; Nova-Caledonia; America sept. et merid.; Venezuela."

Eleleis, Simon: "Africa max. australis."

Zimiris, Simon: "Arabia merid.; India; et fortasse Malaisia."

In the "Proceedings of the Californian Academy of Sciences," 3rd series, i., No. 7, 1898, p. 225, Nathan Banks described a Mexican species, for which he proposed the name *Zimiris pubescens*. This Simons considers to be the type of another genus, to which he gave the MS. name *Neozimiris*.[2]

Taking into consideration the distribution of the family as thus defined, it is only natural to suppose the possibility of its occurring in Australia. The form described below differs essentially from any of the species recorded to the genera above quoted. If my determination as to its systematic position be correct, then, for the convenience of classification, two subfamilies will have to be created, as well as a new genus. For the reception of the genera above quoted I propose the subfamily *Prodidominae*, and for the genus hereunder described *Cryptoerithinae*.

In speaking of the *Prodidomidae*, Professor Comstock says[3]:—"The *prodidomids* are two-clawed, eight-eyed spiders, with dissimilar eyes in three rows, and very robust chelicerae, which are furnished with very long and slender claws" [fangs.—W.J.R.]. The species described below, while displaying these points in the main, presents certain features widely distinct. In all *Prodidomids* hitherto known the eyes are arranged in three rows, reading from the front of 4, 2, 2, while in the species now under study, and for which I propose the name *Cryptoerithus occultus*, the formula is 2, 4, 2. Another point of interest is that instead of six spinnerets there are only four, of which two are extremely minute, and are ensconced in a deep pit or depression at the posterior extremity of the abdomen, and two very long, cylindrical ones situated on the underside, and at some little distance from the extremity. The latter pair are placed close together and almost touch each other; the minute pair, on the other hand, are decidedly difficult to trace, and this difficulty is increased owing to the abundance of comparatively long hairs within the cavity, and which surround them. In outline the cephalothorax is somewhat like *Eleleis*, Sim.

Simon, in his monumental work,[4] gives a lucid outline of the *Prodidomidae*, and to this the student is directed. I

(2) Simon: *op. cit.*, ii., 1897 (1903), p. 984.

(3) Comstock: "The Spider Book," 1912, p. 308.

(4) Simon: *op. cit.*, pp. 332-336.

give herewith a few points defining the two subfamilies as I understand them:—

Cephalothorax oval, obtuse in front, obtusely truncated at rear, and having a small median hollow depression; *ocular area* longer than broad. *Eyes*, eight; in three rows of 4, 2, 2. *Legs:* in *Prodidomus* and *Eleleis*, short; in *Zimiris*, the metatarsi and tarsi scopulated. *Falces* robust, convex at base; apices attenuated and divergent. *Labium* free, short, flat, apex attenuated, obtuse or truncated. *Sternum* flat, broadly oval, anterior angle rounded, posterior extremity acuminate, and terminating between fourth pair of coxae. *Abdomen* oval. *Spinnerets*, six ... ... PRODIDOMINAE

Cephalothorax obovate, obtuse in front; *ocular area* longer than broad; *median fovea* elongate, and having the appearance of a sharp deep cut. *Eyes*, eight; in three rows of 2, 4, 2. *Falces* moderately long, robust; *fang* long. *Legs* long. *Maxillae* robust, arched, apices obtuse and inclining inwards, acuminate, rounded at heel. *Labium* free, rather longer than broad, acuminate, coniform. *Sternum* somewhat cordiform, anterior extremity acuminate, and terminating between fourth pair of coxae. *Abdomen* oval. *Spinnerets*, four; superior pair minute, and located within a deep recess or pit at posterior extremity of abdomen; inferior mammillae very long, cylindrical, two-jointed, basal joint minute ... ... CRYPTOERITHINAE

Subfamily CRYPTOERITHINAE, n. subf.

CRYPTOERITHUS,[5] n. g.

Pl. lxvii., figs. 3, 4, and 5.

Cephalothorax obovate, arched, anterior extremity obtuse, narrow, posterior extremity truncated. *Pars cephalica* not raised; *ocular area* longer than broad. *Pars thoracica* broad, radial grooves not distinct; *median fovea* a longitudinal slit. *Eyes*, eight, arranged in three rows of 2, 4, 2 (fig. 3). *Legs* long, tapering, hairy, bespined. Relative lengths, 4, 1, 2, 3. *Palpi* moderately long. *Falces* moderately robust and moderately long; *fang* long. *Maxillae* not long, robust, arched, apices obtuse and inclining inwards. *Labium* free, short, slightly arched, apex acuminate, rather longer than broad, coniform. *Sternum* large, broad, slightly arched, somewhat cordiform, anterior angle rounded, posterior extremity acuminate and terminating between posterior coxae,

(5) κρυπτω = to hide; ἐριθος = a spinner.

which latter are much longer than their neighbours. *Abdomen* oval. *Spinnerets*, four. Superior pair minute and located in a deep posterior abdominal depression; inferior pair long, cylindrical.

CRYPTOERITHUS OCCULTUS, n. sp.

♀. Cephalothorax, 1·5 mm. long, 1·2 mm. broad; abdomen, 2·5 mm. broad, 1·6 mm. long.

Cephalothorax yellow, obovate, arched, moderately clothed with long black hairs. *Pars cephalica* sloping forward, not higher than thoracic segment, obtuse in front, arched, segmental groove faintly distinct; *ocular area* broader than long; *clypeus* not deep. *Pars thoracica* broad, convex, sloping sharply to the rear, posterior angle truncated and indented; *median fovea* elongate, and having the appearance of a sharp, deep cut; *marginal band* narrow, thickly fringed with short black hairs (fig. 3). *Eyes*, eight; arranged in three rows of 2, 4, 2; large, compactly grouped; median pair (second row) slightly the largest of the series; anterior eyes separated from each other by a space equal to about twice their individual diameter; second row slightly recurved; of this row the median eyes are separated from each other by a space equal to about half their individual diameter; lateral eyes are seated close to their inner neighbours, but do not touch; posterior pair wedge-shaped, obliquely placed, the points nearly meeting (fig. 3). *Legs* concolorous with cephalothorax, long, tapering, hairy, armed with moderately long and short strong spines; fourth pair of coxae much the longest; *tarsi* two-clawed; claws small and obscured by tufts of spatulate hairs. Relative lengths, 1, 4, 2, 3. *Palpi* concolorous with legs, moderately long, and similar in clothing and armature. *Falces* concolorous with palpi, moderately robust, tapering, arched, hairy; *fang* long. *Maxillae* pale yellow, almost white, arched, obtusely acuminate, bulging at base, apices inclining inwards and fringed with pale hairs; heel rounded; a few long, stiff bristles distributed over the surface. *Labium* concolorous with maxillae, rather longer than broad, free, slightly arched, apex obtuse; a few stiff, bristly hairs present. *Sternum* somewhat cordate, concolorous with labium, arched, anterior angle curved, posterior extremity acuminate and terminating between fourth pair of coxae; a few long, dark bristles spread over surface; margin reddish-brown; in front of each coxa there is a deep, lateral groove, extending well inwards and concolorous with margin. *Abdomen* oval, overhanging base of cephalothorax, strongly arched, yellow, clothed with short, sooty, adpressed hairs; posterior extremity deeply indented (fig. 4). *Epigynum* a transverse plaque with two transversely oval pits (fig. 5). *Spinnerets*, four; superior mammillae

minute, surrounded by dark, coarse hairs, and concealed within a deep recess or pit at posterior extremity of abdomen; inferior mammillae placed closely together, long, cylindrical, hairy, apices obliquely truncate (fig. 4).

Hab.—Flat Rock Hole, Musgrave Ranges, July 13, 1914.

Family DRASSIDAE.

ECHEMUS (?), Sim.

Hemicloea longipes, Hogg: Rep. Horn Expl. Exped., ii., Zool., 1896, p. 337.

Two specimens of what appear to be examples of this genus are included in the collection—one, an immature female, and which it is not possible to determine specifically with safety; and the other a mature male. Both examples are from the same locality, and may possibly be one and the same species. Only two forms of *Echemus* (?) have been described from Australia, *viz.*, *E.* (?) *(Drassus) dilutus*, L. Koch, from Rockhampton, Northern Queensland, and *E.* (?) *(D.) griseus*, L. Koch., "Neuholland." Both of these were females, and the first-named was immature. In the absence of an adult female, one cannot say with exactitude whether the mature male in this collection is a new species or whether it may not be the unknown male form of *E. (D.) griseus*, but to that species for the present I associate it, and hereunder give a description.

Hab.—Everard Range.

ECHEMUS (?) (DRASSUS) (?) GRISEUS, L. Koch.

Pl. lxvii., fig. 6.

Drassus griseus, L. Koch: Die Arach. des Aust., i., 1873. p. 391, pl. xxx., fig. 8.

♂. Cephalothorax, 3·5 mm. long, 2·5 mm. broad; abdomen, 4 mm. long, 2 mm. broad.

Cephalothorax ovate, yellow, shining, smooth, arched. *Pars cephalica* sloping forward, obtuse in front, moderately clothed with fine hoary hairs; thoracic segment very faintly defined; *ocular area* broader than long, space between eyes dark-brown; *clypeus* narrow, deep, and fringed with pale hairs. *Pars thoracica* highest at *median fovea*, which latter is a long, deep, narrow cleft, and very distinct, no radial grooves present, posterior angle indented, surface moderately clothed with fine silky hairs; *marginal band* rather broad, fringed with long fine hairs. *Eyes* large, arranged in two rows of four each; both rows strongly recurved, the rear especially so; anterior median eyes dark, all others of a pearl-grey lustre; rear median eyes largest of the group, elliptical, seated obliquely, their rear extremities almost touching. *Legs* concolorous with

cephalothorax, long, tapering, clothed with fine hairs and armed with strong spines. *Palpi* moderately long, similar in colour and clothing to legs, heavily spined; *genital bulb* well developed, complicated (fig. 6). *Falces* concolorous with cephalothorax, moderately strong, arched, tapering, hairy; outer angle of the furrow of each falx armed with two large teeth and one small one, and the inner angle with two large teeth; *fang* short, well curved. *Maxillae* concolorous with falces, long, arched, apices obliquely truncated and inclined inwards; inner angle of apices white, heel rounded; a number of coarse black bristles spread over surface. *Labium* yellow, angles and apex white, arched; apex truncated and slightly concave at middle; surface similar in clothing to maxillae. *Sternum* pyriform, yellow, anterior angle rounded, apex acuminate and terminating between fourth pair of coxae, arched and clothed with coarse black bristles. *Abdomen* elliptical, slightly overhanging base of cephalothorax, arched, yellow, clothed with black hairs. *Spinnerets* yellow, elongate, cylindrical, grouped closely together; hairy.

Hab.—Moorilyanna Native Well, July 2, 1914.

LAMPONA PUNCTIGERA, Simon.

Die Fauna Sud-west Aust., i., 1908, p. 399.

Hab.—Moorilyanna Native Well, July 2, 1914. Widely distributed in Northern Australia.

Family ZODARIIDAE.

STORENA FORMOSA, Thor.

Oefv. Kongl. Vet. Akad., Förh., 1870, n. 4, p. 374; L. Koch: Die Arach. des Aust., i., 1872, p. 314, pl. xxv., fig 5.

Hab.—One mature female from ninety miles west of Todhunter, July 8, 1914; and one immature female from under bark, Flat Rock Hole, Musgrave Ranges. A widely distributed species.

Family THERIDIIDAE.

ARGYRODES, Sim.

Only one species of this family was collected, and that the male of an undescribed *Argyrodes*. In my "Census of Australian Arancidae" (6) only three species were recorded; since then I have described another, (7) while at the present moment several distinct forms are in my hands and are awaiting publication.

The specimen obtained by Captain White is an exceedingly small one, but very distinctly marked, and may be easily

(6) Rainbow: Rec. Aust. Mus., ix., No. 2, 1911, p. 155.

(7) Rainbow: Mem. Queens. Mus., i., 1912, p. 193, figs. 3 and 4.

picked out from its congeners by its ovate abdomen, which latter in most species is gibbous; this part of the body is yellowish-brown and ornamented by two reticulated silvery spots.

ARGYRODES BINOTATA, n. sp.

Pl. lxvii., figs. 7 and 8.

♂. Cephalothorax, 1 mm. long, 0·7 mm. broad; abdomen, 1·5 mm. long, 0·7 mm. broad.

Cephalothorax shining, ovate. *Pars cephalica* dark brown, arched, high, retreating rearwards, sides declivous; *ocular area* broader than long; *clypeus* produced, slightly cleft. *Pars thoracica* arched, dark brown in front, yellowish behind, radial grooves present; *marginal band* narrow. *Eyes* equal in size; distribution normal. *Legs* moderately long and moderately strong, tapering; femur of leg 3 dark-brown, but in legs 1, 2, and 4 white; metatarsi and tarsi yellow; each limb pilose and armed with fine spines. Relative lengths, 1, 4, 2, 3. *Palpi* short, strong, pilose, yellow-brown; genital bulb large, well developed, complicated (fig. 7). *Falces* concolorous with *pars cephalica*, arched, pubescent. *Maxillae* and *labium* concolorous with falces; normal. *Sternum* concolorous with foregoing, elongate, triangular, arched. *Abdomen* ovate, overhanging base of cephalothorax, arched, pubescent, yellowish-brown, upper-surface ornamented by two large, irregularly shaped, reticulated silvery spots (fig. 8).

Hab.—Everard Range, August 14, 1914.

Family ARGIOPIDAE.

NEPHILA EREMIANA, Hogg.

Rep. Horn Expl. Exped., ii., Zoology, 1896, p. 318, pl. xxiv., fig. 3.

Hab.—Female examples, ranging in development from immature to mature, were collected at the following localities:—Ninety miles west of Todmorden, July 8, 1914; Flat Rock Hole, Everard Range, July 22, 1914; and (no date recorded) between Oodnadatta and Todmorden.

DOLOPHONES, Walk.

Two distinct species of this genus were obtained, the first being represented by two examples, of which one is adult and the other immature, whilst the second species is represented by three specimens, none of which have reached the adult stage. Both species are of striking appearance, and each is undescribed. The spiders of this genus are noted for their flattened abdomen, which latter are always more or less

intricately marked. Conspicuous in the abdominal markings or ornamentation of the species are a varying number of cicatrose depressions or pits, and in the two forms now under review this feature is, as usual, most marked. For one of these new forms I propose the name *Dolophones intricata*, in allusion to its intricate ornamentation, and for the other, which displays a remarkable but superficial resemblance to certain *Thomisidae*, I propose the name *D. thomisoides*.

Dolophones intricata, n. sp.

Pl. lxvii., figs. 9 and 10.

♀. Cephalothorax, 3·4 mm. long, 3·6 mm. broad; abdomen, 5·1 mm. long, 8·1 mm. broad (fig. 9).

Cephalothorax broadly ovate, much broader than long, dark brown generally, pilose, posterior extremity yellowish. *Pars cephalica* arched, truncated, recurved in front, broad, segmental groove distinct, a few short, fine hoary hairs spread over surface; *ocular area* broader than long; *clypeus* broad, not deep. *Pars thoracica* broad, strongly arched, radial grooves indistinct, a few hoary hairs spread over surface; *marginal band* broad, pilose, yellowish. *Eyes* normal. *Legs* moderately long, strong, tapering, dark brown with yellowish markings, pilose, armed with numerous long, strong spines. Relative lengths, 4, 1, 2, 3. *Palpi* short, strong, tapering, similar in colour, clothing, and armature to legs. *Falces* short, strong, arched, hairy, yellow at base and for about one-half their length thence, dark brown. *Maxillae* normal, outer angles and base yellowish, inner angles and apices pallid. *Labium* normal; apex pallid, the remainder yellow. *Sternum* oval, yellow, slightly arched. *Abdomen* overhanging base of cephalothorax, transversely oval, pilose, upper-surface convex, anterior angle truncated, wavy in outline, posterior extremity obtuse; general colour dark brown, with yellowish markings and cicatrose depressions; scheme of ornamentation intricate; inferior surface concave, grey, corrugated, corrugations lateral. *Epigynum* broad, with deep lateral pits, between which there is a long, convex, spatulate process (fig. 10).

Hab.—Oodnadatta to Todmorden (no date), and Carmeena, Everard Range, August 14, 1914.

Dolophones thomisoides, n. sp.

Pl. lxviii., fig. 11.

The description which I give hereunder is drawn from the oldest and largest of the three examples collected, and which is apparently almost adult. Personally I avoid describing immature forms as a rule, but there are times when one may

with propriety depart from a set custom, and the present instance is, to my mind, a case in which such a departure is justified. The laterigrade grouping of the legs and the general appearance of the *caput* and *falces* are the main points that suggest a *Thomisid* appearance.

♀. Cephalathorax, 1·6 mm. long, 2 mm. broad; abdomen, 2·3 mm. long, 5·2 mm. broad.

Cephalothorax broadly ovate, broader than long. *Pars cephalica* pilose, arched, sides declivous, truncated in front, hoary with yellowish markings; *ocular area* broader than long; *clypeus* narrow, not deep. *Pars thoracica* broad, arched, pilose, yellow, with median and lateral white spots; radial grooves faintly discernable; *marginal band* narrow, white (fig. 11). *Eyes* normal. *Legs* moderately long, robust, pilose, white with yellow annulations, armed with numerous moderately long and moderately strong spines; underside of legs pale yellow. Relative lengths, 4, 1, 2, 3. *Palpi* short, robust, similar in colour, clothing, and armature to legs. *Falces* short, pilose, white, arched. *Maxillae* and *labium* normal, white. *Sternum* broadly oval, white, arched. *Abdomen* broadly ovate, boldly overhanging base of cephalothorax, wavy in outline, anterior angle truncated, upper-surface convex, pilose, yellowish-grey, ornamented with white markings and black spots, margin lighter in colour than the median area; inferior surface concave, light grey, corrugated, corrugations marked with dark-brown spots. On the younger forms the abdominal markings show some variation, but naturally such are not constant.

Hab.—Moorilyanna Native Well. The three examples of *D. thomisoides* were included among some specimens of *Thomisidae*, and the dates on the collector's label in the tube reads "July 28, 29, 30, 1914."

Family THOMISIDAE.

Several specimens, and these representing three genera, were collected by Captain White—namely, *Tmaris*, *Diaea*, and *Stephanopsis*—and it is curious to note that the majority of these are immature.

Of the genus *Tmaris* there are two species, one of which (consisting of only one specimen) is not only immature, but too damaged for specific determination; nevertheless, I am confident it is distinct from the one for which I propose the name *T. punctatus*. As no species of its genus has, up to the present moment, been described or recorded from Central Australia, it is quite probable it is also an undescribed form, but before naming it I await further and more perfect

examples. *T. punctatus* is a male, and not quite fully developed. Likewise, of the genus *Diaea* there are again only two species, one of which is probably *D. punctata*, L. Koch, and the other, which is certainly new, I propose to name *D. pulleinei*, in honour of my esteemed friend, Dr. Pulleine, of Adelaide. The two half-grown examples of *Stephanopsis* appear to be undoubtedly referrable to O. P. Cambridge's *S. altifrons*.

TMARUS PUNCTATUS, n. sp.

Pl. lxviii., figs. 12 and 13.

♂. Cephalothorax, 1·4 mm. long, 1 mm. broad; abdomen, 2·5 mm. long, 1·4 mm. broad.

Cephalothorax obovate, grey. *Pars cephalica* strongly arched, not higher than thoracic segment, front and sides declivous, grey with a few black spots, and having a few long bristly hairs. *Ocular area* broader than long; *clypeus* deep, fringed with hairs. *Pars thoracica* strongly arched, sides rounded and declivous, posterior angle declivous and indented; upper-surface grey, with yellowish and white markings, and furnished with a few long bristly hairs; sides grey, with yellowish markings; posterior angle yellowish; *marginal band* broad, grey. *Eyes* distributed normally; each eye seated upon a slightly elevated tubercular eminence; front lateral eyes largest, and rear lateral eyes much the smallest. *Legs* moderately long and moderately strong, tapering, pilose, spined, upper-surfaces yellowish-grey, lower-surface light-grey, annulated; first and second pairs equal in length, third pair short, fourth pair missing. *Palpi* similar in colour, clothing, and armature to legs; short. *Falces* moderately long, arched, tapering, grey, pilose. *Maxillae* and *labium* grey; normal. *Sternum* grey, arched, pilose, cordate, with lateral extensions, the points of which terminate between the coxae; posterior extremity acuminate and terminating between fourth pair of coxae. *Abdomen* elongate, obovate, arched, overhanging base of cephalothorax; superior surface grey, with large and small black spots and lateral black markings near posterior extremity; at anterior extremity there are two submedian protuberances, while the posterior extremity is strongly humped (figs. 12 and 13); sides grey, striate-punctate; inferior surface light grey, relieved by a median and elongate patch of yellow-grey with black lateral spots; this patch extends from the *rima epigasteris* to near spinners; in front of *rima epigasteris* there is a large dark-brown patch, broader than long and uneven in outline.

Hab.—Moorilyanna Native Well, "July 28, 29, and 30, 1914." Immature.

DIAEA (?) PUNCTATA, L. Koch (immature).

Die Arach. des Aust., ii., 1876, p. 819, pl. lxx., figs. 6 and 6*a*.

Hab.—Between Todmorden and Wantapella Swamp, July, 1914.

DIAEA PULLEINEI, n. sp.

Pl. lxviii., figs. 14 and 15.

♂. Cephalothorax, 1 mm. long, 1 mm. broad; abdomen, 1·3 mm. long, 1 mm. broad.

Cephalothorax arched, broad, furnished with long bristles. *Pars cephalica* yellow, truncated in front, not higher than thoracic segment; *ocular area* much broader than long; *clypeus* deep. *Pars thoracica* yellow, with broad reddish-brown lateral bars extending from ocular region to posterior angle; sides rounded; *marginal band* narrow. *Eyes* normally distributed, black; each poised at the summit of a hoary tubercle. *Legs* rather long, strong, yellow, with reddish-brown annulations, hairy, spined. Relative lengths, 1, 2, 4, 3. *Palpi* short, yellow, similar in clothing and armature to legs, genital bulb rather large, no apophesis present (fig. 14). *Falces* short, yellow, hairy, not strong, arched, coniform. *Maxillae* and *labium* normal, hairy, yellow. *Sternum* concolorous with foregoing, shield-shaped, surface rather flat, sides arched, moderately hairy. *Abdomen* ovate, hairy, arched, overhanging base of cephalothorax, yellow; upper-surface ornamented with white and brown spots; at the middle there is a broad, broken, transverse brown bar; just below the latter, and extending towards the spinnerets, there are two brown bars, which are wavy in outline, retreating and converging inwards, but the apices do not meet (fig. 15); ventral surface yellow, with reddish-brown median and lateral bars; the latter are linked together by a procurved transverse bar immediately in front of the spinnerets.

Hab.—Moorilyanna Native Well, "July 28, 29, and 30, 1914."

STEPHANOPSIS ALTIFRONS, O. P. Cambr.

Ann. Mag. Nat. Hist., iii., 4, 1869, p. 61, pl. v., figs. 33 to 39; L. Koch: Die Arach. des Austr., i., 1874, p. 495, pl. xxxviii., fig 1.

Hab.—Moorilyanna Native Well, "July 28, 29, and 30, 1914." Immature.

Family CLUBIONIDAE.

ISOPEDA CONSPERSULA (?) (♂), Strand.

Zool. Jahb., 1913, p. 610.

Hab.—Everard Range, "up to August 14, 1914." Only one specimen, and that an immature form of what I take to be the above species.

ISOPEDA LEISHMANNI, Hogg.

Proc. Zool. Soc., Lond., 1902, p. 437, fig. 90.

Hab.—Flat Rock Hole and Wantapella Swamp, Everard Range. Several specimens of this species were obtained, from which it is apparent that *I. leishmanni* is a somewhat variable form, both in size and general appearance.

CLUBIONA ROBUSTA, L. Koch.

Die Arach. des Aust., i., 1873, p. 417, pl. xxxiii., figs. 2, 2*a*, 2*b*, 3, 3*a*, 3*b*.

Hab.—Moorilyanna Native Well, end of July, 1913, male; Flat Rock Hole, Everard Range, July 30, 1914, male and female.

CHIRACANTHIUM (?) PENNULIFERUM (♂), Simon.

Die Fauna Sud-west Aust., ii., 1909, p. 162.

Hab.—Flat Rock Hole, Everard Range, July 30, 1914. A single specimen, an immature male, and in all probability referrable to Simon's species.

MITURGA LINEATA, Thor.

Oef. Kongl. Vet. Akad. Förh., 4, 1870, p. 376; L. Koch: Die Arach. des Aust., i., 1872, p. 351, pl. xxvii., figs. 6, 6*a*, 7, 7*a*-7*e*.

Hab.—Everard Range to Wantapella Swamp. Two specimens.

Family PISAURIDAE.

DOLOMEDES FACETUS, L. Koch.

Die Arach. des Aust., ii., 1876, p. 869, pl. lxxiv., figs. 5, 5*a*, 5*b*.

Hab.—Everard Range, "Up to August 14, 1914." Two specimens of this widely distributed species were obtained. *D. facetus* occurs in New Zealand and on the Island of Upolu.

Family LYCOSIDAE.

LYCOSA LEONHARDII, Strand.

Zool. Jahrb., 1913, p. 618.

Hab.—Everard Range to Wantapella Swamp. One female specimen; immature.

LYCOSA (?) TOPAZIOPSIS, Hogg.

Rep. Horn Expl. Exped., ii., Zool., 1906, p. 347, pl. xxiv., fig. 14.

Hab.—Between Musgrave Ranges and Everard Range. One specimen, immature and in bad condition.

LYCOSA (?) IMMANSUETA, Simon.

Die Fauna Sud-west Aust., ii., 1909, p. 183, fig. 1.

Hab.—Todmorden, ninety miles west of Oodnadatta, July, 1914. Two female specimens, one adult and damaged and one about half-grown. Although I have inserted a (?) in connection with these specimens, I think, notwithstanding that the adult is damaged, there can be little doubt as to the correctness of the determination; indeed, the *epigynum* would seem to bear out this view, although it is unfortunately somewhat distorted.

LYCOSA NIGROPUNCTATA, n. sp.

Pl. lxviii., figs. 16 and 17.

♀. Cephalothorax, 6 mm. long, 5 mm. broad; abdomen, 7·2 mm. long, 5 mm. broad.

Cephalothorax obovate, pilose. *Pars cephalica* arched, raised, orange-yellow, with dark-brown spots, truncated in front, thoracic segment well defined, sides declivous; *ocular area* longer than broad, clothed with long black hairs, which impart a dark appearance; eyes fringed with grey; *clypeus* deep, pilose, and furnished with three or four black bristles below front row of eyes. *Pars thoracica* broad, arched, median and lateral grooves well defined, dark; *marginal band* broad, yellow, spotted with black, fringed with fine hairs. *Eyes* in three rows of 4, 2, 2; anterior row very slightly procurved, small, lateral eyes smallest; the pair constituting the second row are not only large, but are also slightly larger than their near neighbours; eyes of second row separated from each other by a space equal to fully once their individual diameter, and those of the third row by a space equal to fully twice their individual diameter. *Legs* long, strong, yellow, hairy, spined, tarsi scopulated, superior claws long. Relative lengths, 4, 1, 2, 3. *Palpi* long, similar in colour, clothing, and armature to legs. *Falces* long, strong, tapering, well arched, hairy, yellow, inner margins fringed with coarse black hairs; *fangs* long, dark-brown. *Maxillae* yellow, long, arched, clothed with long coarse hairs or bristles, rounded at heel, apices broad, inclining inwards, inner angles obliquely truncated. *Labium* yellow, but darker than maxillae, darkest at base, short, broad, well arched, apex truncated, slightly indented at centre, fringed with dark hairs. *Sternum* broad, truncated in front, well arched, dark brown, margin yellow, densely clothed with dark hairs. *Abdomen* ovate, hairy, overhanging base of cephalothorax, upper-surface yellow and having several slightly darker yellow, broad, transverse, curved bars; these latter are well curved, and do not suggest eschelons; distributed over the surface there are a number of large and small black spots;

sides yellow, mottled with numerous pale-yellowish spots; inferior surface concolorous with sides, but having in addition a broad, longitudinal, median smoky bar, which latter terminates some little distance from the spinnerets (fig. 16). *Epigynum* simple, composed of two widely separated, obliquely directed oval pits (fig. 17). *Spinnerets* short, yellow, and clothed with yellow and dark hair.

Hab.—Flat Rock Hole, Musgrave Ranges, July 24, 1914. Two specimens, one mature and the other half-grown. In reference to the larger specimen the collector's note reads, "Out of hole with trap-door." The trap-door, a specimen of which was enclosed, is of the wafer type, and is made up of layers of silk, in the meshes of which fine gravel has been incorporated; it has a circumference of 42 mm. A third specimen, also from Flat Rock Hole, but without date, is considerably smaller than the one described and figured as the type; further, the black abdominal spots are very small and very few in number, and the transverse bars are absent, but the *epigynum* is fully developed and is exactly like the form described and figured herewith. Apparently the species is variable.

Family OXYOPIDAE.

Amongst the material collected by Captain White there are a number of small spiders which, on account of the large size of the second pair of eyes, suggest affinity to Simon's genus *Hostus;* in fact, when I first examined them I thought I should have to record the occurrence of that Madagascan genus in Australia. A closer examination, however, when engaged upon the task of preparing the present paper, brought to light characters excluding this species from that and every other genus included in the family *Oxyopidae*. The family is well distributed over the globe, but it is a small one, consisting of (including the new genus described below) only eleven genera. The majority of the species—and they are not many—are remarkable for their beauty and gracefulness, the compactness of the grouping of the eyes, length of maxillae and labium, and also for their long legs. In the species now under review the eyes, as already pointed out, bear a superficial resemblance to those of the Madagascan genus, but contrary to that or any other *Oxyopid*, the labium, instead of being truncated, is coniform, and therefore has the apex obtusely pointed, while the legs are only moderately long. It is for the reason of its somewhat superficial resemblance to Simon's genus, quoted above, that I propose for the reception of this interesting *Araneiad* the generic name *Pseudohostus*, the description of which I append herewith.

Pseudohostus, n. g.

Pl. lxviii., figs. 18 and 19.

Cephalothorax oval, massive, segmental groove separating *pars cephalica* from *pars thoracica* faintly defined. *Pars cephalica* strongly arched, obtusely truncated; *ocular area* broader than long; *clypeus* deep. *Pars thoracica* strongly arched, broad; median and radial grooves faintly defined; sides and posterior area steep. *Eyes*, eight, distributed over three rows of 2, 2, 4; anterior eyes minute, second pair largest, and also somewhat larger than those forming the rear row; posterior eyes of equal size, and forming a strongly procurved row (fig. 18). *Legs* not strong, only moderately long, armed with long, fine spines, not scopulated; claws, three; superior claws long, well curved, weak, furnished with numerous long, fine teeth. Relative lengths, 1, 2=4, 3. *Palpi* short. *Falces* rather long, coniform; *fang* short, weak. *Maxillae* long, apices converging inwards, truncated, acuminate, heel rounded (fig. 19). *Labium* long, coniform (fig. 19). *Sternum* elongate, truncated in front, acuminate at rear, and terminating between fourth pair of coxae. *Abdomen* ovate. *Spinnerets* compactly grouped, uniarticulate, cylindro-coniform.

Pseudohostus squamosus, n. sp.

Pl. lxviii., figs. 20 and 21.

♀. Cephalothorax, 1·7 mm. long, 1·4 mm. broad; abdomen, 2·5 mm. long, 1·7 mm. broad.

Cephalothorax oval, smooth, shining, furnished with a few short hairs, and, when not rubbed, a profusion of white, elliptical scales; yellow, with dark markings, the latter variable. *Pars cephalica* strongly arched, sides declivous, obtuse in front, junction with thoracic segment faintly defined; *ocular area* broader than long, hairy; *clypeus* narrow, but very deep. *Pars thoracica* broad, strongly arched, sides and posterior area very steep, radial and lateral grooves faintly defined; *marginal band* broad, pale yellow. *Eyes* black; in three rows of 2, 2, 4; anterior pair widely removed, minute; second pair largest of the series, and separated from each other by a space equal to fully twice their individual diameter; the four constituting the third row form a strongly procurved line, and widely removed from each other; each lateral eye of this row is separated from its inner neighbour by three times its individual diameter, and the two median eyes from each other by a space equal to about two and a half diameters (fig. 18). *Legs* moderately long, yellow, tapering, hairy, armed with long, fine spines, tarsal joints not scopulated. Relative lengths, 1, 2=4, 3. Superior claws long, well curved, and

furnished with a large number of long, fine, parallel teeth. *Palpi* not long, similar in colour, clothing, and armature to legs. *Falces* yellow, moderately long, coniform, hairy; *fang* short and weak. *Maxillae* long, yellow, arched, moderately hairy, apices truncated, inner angles acuminate, inclining inwards and fringed with dark hairs; heel rounded (fig. 19). *Labium* concolorous, long, coniform moderately hairy (fig. 19). *Sternum* concolorous also, elongate, truncated in front, arched, moderately hairy, apex obtusely acuminate and terminating between fourth pair of coxae. *Abdomen* ovate, slightly overhanging base of cephalothorax, strongly arched, pubescent, and, when not rubbed, clothed with numerous white elliptical scales; the general colour of the superior surface is yellow, with dark markings, but the latter vary in size, form, and distribution in different individuals; inferior surface yellow, with more or less intense dark markings, the surface pilose, and carrying scales similar to those already described (fig. 20). *Epigynum:* This organ consists of two circular depressions (fig. 21), but the latter are so densely clothed with hairs and scales that they are exceedingly difficult to locate. *Spinnerets* yellow, hairy, compactly grouped, uniarticulate, cylindro-conical; in front of inferior mammilae there is a small, obtuse *colulus*.

Hab.—Moorilyanna Native Well, July 28, 29, 30; Flat Rock Hole, Musgrave Ranges, July 30, 1914. The series collected embraces individuals of different ages and different stages of growth, and these display considerable colour variation.

Family SALTICIDAE.

Of this family five species were collected, and the majority of these were immature or more or less damaged. Two of the five species are apparently new, and so are herewith described. None call for special comment.

Cosmophasis (?) bitaeniatus, Keys.

Sobara bitaeniata, Keys, in L. Koch: Die Arach. des Aust., ii., 1882, p. 1365, pl. cxv., figs. 8, 8*a* to 8*d*, 9.

Hab.—Flat Rock Hole, Musgrave Ranges, July, 1914. An immature male of what may in all probability prove to be the above species.

Pystira orbiculata, L. Koch.

Husarius orbiculatus, L. Koch: Die Arach. des Aust., ii., 1881, p. 1285, pl. cx., figs. 1, 1*a*, 1*b*, 2, 2*a* to 2*c*.

Hab.—Flat Rock Hole, Musgrave Ranges, July, 1914. Two specimens, both immature.

Hasarius, sp.

Hab.—Two specimens from Flat Rock Hole, July, 1914, and one from Moorilyanna Native Well, July 28-30, 1914. Each of these belong, apparently, to the same species, but are too immature for description.

Servaea obscura, n. sp.

Pl. lxviii., fig. 22.

♀. Cephalothorax, 2·2 mm. long, 1·8 mm. broad; abdomen, 3·6 mm. long, 2·2 mm. broad.

Cephalothorax ovate, nearly parallel-sided, chocolate-brown, shining. *Pars cephalica* rather flat, not impressed, inclined forward, sides declivous; *ocular area* broader than long, each eye fringed with tawny and hoary hairs; *clypeus* not deep, fringed with rather long hairs. *Pars thoracica* furnished with a few white and tawny adpressed scales, and marked by a large but not well-defined depression, sides declivous, sloping sharply rearwards, and retreating laterally to posterior angle; *marginal band* broad, yellow. *Eyes* in three rows of 4, 2, 2. Front row recurved; median anterior pair much the largest of the entire series, intermediate pair (second row) minute, posterior eyes somewhat smaller than front lateral eyes. *Legs* short, robust, hairy, armed with long, very fine spines; coxae and base of each femur pale yellow; from thence upper-surface and sides of each leg yellow, with dark-brown annulations; inferior surface of each yellow. Relative lengths, 1, 4, 2, 3. *Palpi* short, robust, similar in colour and armature to legs. *Falces* not long, robust, arched, concolorous with cephalothorax, hairy, almost geniculate. *Maxillae* and *labium* yellowish, normal. *Sternum* elongate, brown, arched, clothed with long hoary hairs. *Abdomen* ovate, slightly overhanging base of cephalothorax, arched, superior surface and sides chocolate-brown, slightly pubescent, and having a number of white and tawny scales; these latter, like those on cephalothorax, lie flat upon the surface, are elliptical, and each one has a distinctly raised ridge or "mid-rib" running down the centre, and is finely and laterally striated; inferior surface yellow-brown and furnished with hoary scales. [All three specimens have apparently been rubbed, and so have lost a large number of their scales.] *Epigynum* small, difficult to locate owing to preponderance of scales; it consists of two circular depressed discs, the edges of each of which are raised so as to form a ridge (fig. 22).

Hab.—Flat Rock Hole, Musgrave Ranges, July, 1914.

TRITE ORNATA, n. sp.

Pl. lxviii., figs. 23 and 24.

♀. Cephalothorax, 2·2 mm. long, 1·5 mm. broad; abdomen, 2·3 mm. long, 1·5 mm. broad (fig. 23).

Cephalothorax ovate, elongate. *Pars cephalica* golden-yellow, flat, slightly inclined, sides steep, pubescent, with fine hoary hairs, interspersed by stiff black hair; *ocular area* longer than broad, eyes ringed with black; *clypeus* not deep. *Pars thoracica* arched, bright yellow, pubescent, clothed with hoary hairs interspersed with stiff black hairs, retreating laterally and sloping posteriorly; *marginal band* yellow. *Eyes* in three rows of 4, 2, 2; front row recurved, median pair of this row larger than their lateral neighbours; those of the second row minute, and seated near to their anterior lateral neighbours; rear pair of eyes slightly larger than the anterior laterals. *Legs* yellow; first pair exceedingly robust; hairy, and armed with spines, those on the first pair being much the strongest. Relative lengths, 1, 4, 2, 3. In the type, which is mature, only one leg, and that of the first pair, is present, all the others having been broken off and lost; but in an immature form the ambulatory limbs are intact. *Palpi* short, similar in colour and armature to legs. *Falces* yellow, arched, coniform, hairy. *Maxillae* and *labium* yellow, normal. *Sternum* elongate, arched, obtusely acuminate and attenuated in front, moderately hairy. *Abdomen* ovate, arched, slightly overhanging base of cephalothorax, hairy; superior surface and sides yellow, with dark median and lateral markings; inferior surface has a broad, median yellow band, transversely striated, and relieved by pale-yellow spots between striations; this band extends from the *rima epigasteris* to the spinnerets; laterally the abdomen (ventral surface) is white and reticulated by dark yellow markings. *Epigynum* transverse, broader than long, situated on a dark-yellow field; it is bisected, and each half presents an appearance suggestive of a square, at the outer extremity of the lower arm of each of which there is a large oval depression (fig. 24).

♂. An immature example of this sex is also included in the collection, and bears the same locality and date as that of the two females. It agrees in colour and clothing to the form described above, and is also very similar in abdominal ornamentation. As the palpal organs are not uncovered further description is unnecessary.

Hab.—Flat Rock Hole, Musgrave Ranges, July 23, 1914. One mature female (damaged) and one immature female (intact), together with an immature male example, all from same locality and collected on the same date.

DESCRIPTION OF PLATES.

PLATE LXVII.

Fig. 1. *Aganippe whitei;* eyes.
,, 2. ,, ,, scheme of dentition.
,, 3. *Cryptoerithus occultus;* cephalothorax.
,, 4. ,, ,, abdomen in profile.
,, 5. ,, ,, epigynum.
,, 6. *Echemus(?) griseus;* male, palpus from above.
,, 7. *Argyrodes binotata;* male, palpus from above.
,, 8. ,, ,, abdomen.
,, 9. *Dolophones intricata.*
,, 10. ,, ,, epigynum.

PLATE LXVIII.

Fig. 11. *Dolophones thomisoides.*
,, 12. *Tmarus punctatus.*
,, 13. ,, ,, abdomen in profile.
,, 14. *Diaea pulleinei;* male, palpus from beneath.
,, 15. ,, ,,
,, 16. *Lycosa nigropunctata.*
,, 17. ,, ,, epigynum.
,, 18. *Pseudohostus squamosus;* eyes.
,, 19. ,, ,, maxillae and labium.
,, 20. ,, ,, in profile.
,, 21. ,, ,, epigynum.
,, 22. *Servaea obscura;* epigynum.
,, 23. *Trite ornata;* in profile.
,, 24. ,, ,, epigynum.

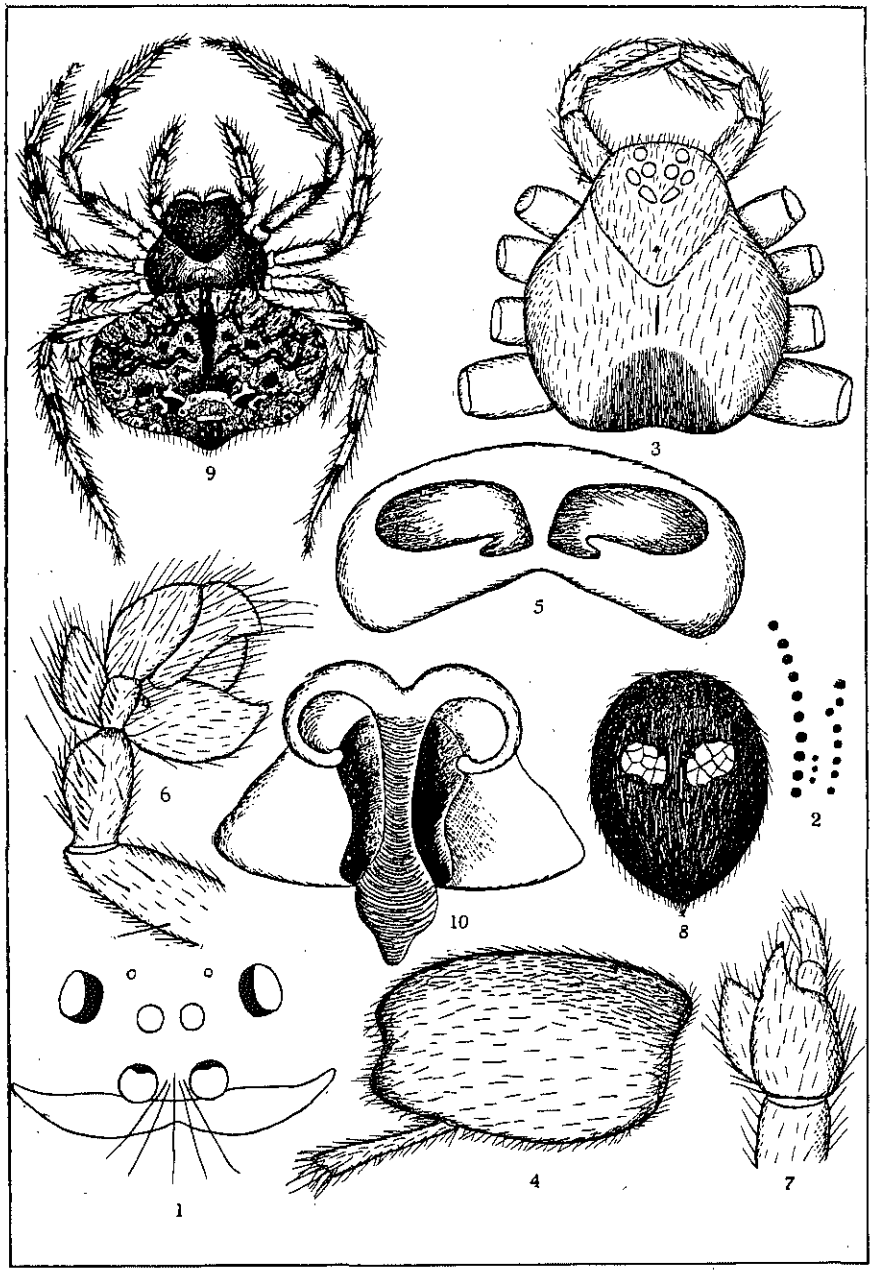
(*i*) INSECTA.

By ARTHUR M. LEA, F.E.S., Museum Entomologist.

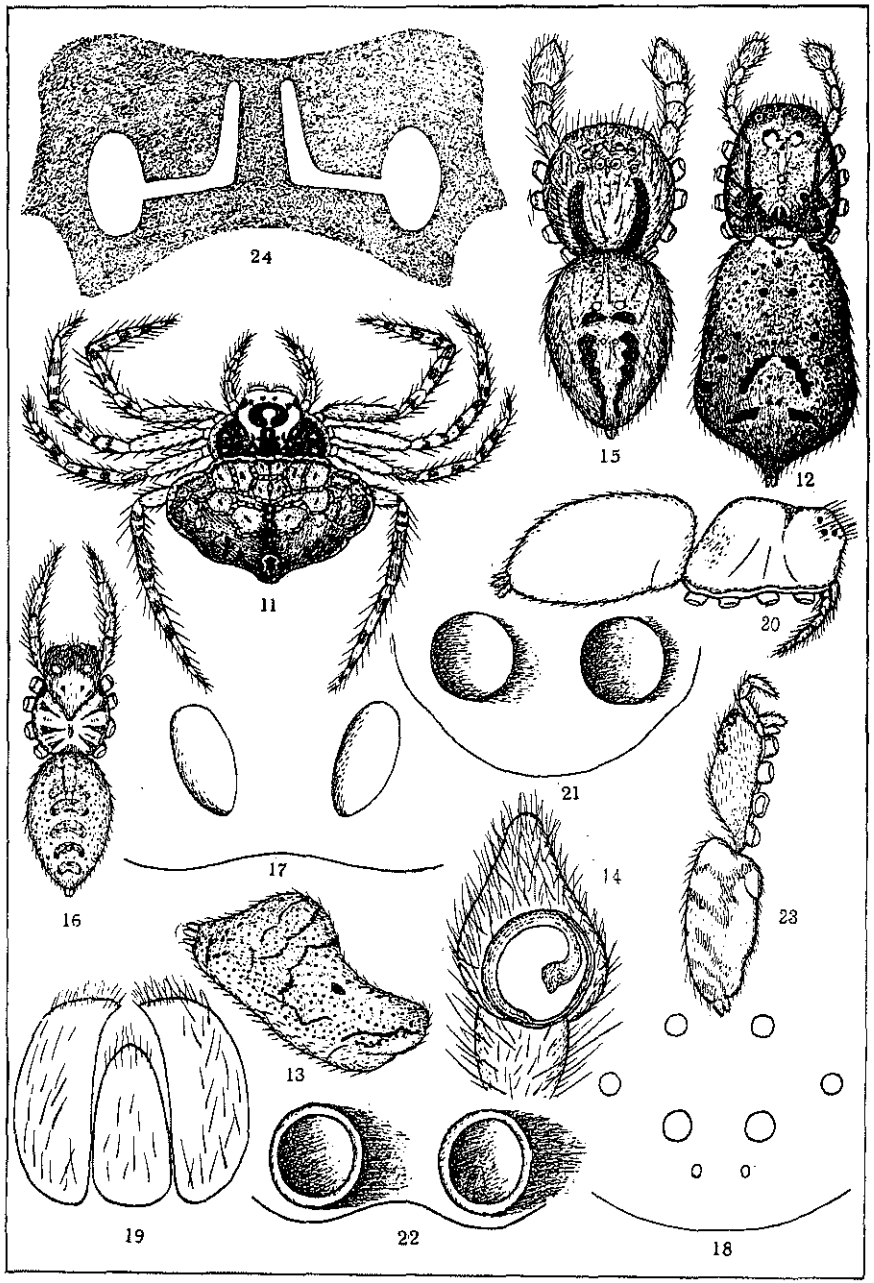
[*Contribution from the South Australian Museum.*]

The collection of invertebrates brought back by Captain White consisted altogether of 1,653 specimens; of the true-insects, the ants have been worked out by Professor Wheeler (of Harvard University), the moths by Dr. Turner (of Brisbane), and the beetles by myself; the bugs have been sent to Mr. Distant (of the British Museum), but the manuscript relating to same has not yet been received. Of the other insects, the *Orthoptera* are represented by 27 species, the *Neuroptera* by 6 species, the *Diptera* by 4 species, and the *Hymenoptera* (other than ants) by 3 species.

Probably, so far as the insects are concerned, a worse time could not have been selected for collecting; nevertheless, some very interesting species were obtained, and the large proportion of new forms amongst the ants indicates how little is known of these interesting insects from the dryer parts of Australia. Of the beetles, the most interesting species are a



HUSSEY & GILLINGHAM LIMITED, PRINTERS & PUBLISHERS ADELAIDE, SO. AUS.



HUSSEY & GILLINGHAM LIMITED, PRINTERS & PUBLISHERS ADELAIDE, S.S. AUS.